MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2018/2019

BIE2024 – INTERMEDIATE MICROECONOMICS
(All Sections/Groups)

29 May 2019
9.00 am – 11.00 am
(2 Hours)

INSTRUCTIONS TO STUDENTS
1. This question paper consists of **Nine (9)** pages including cover page with Section A and B.
2. Section A consists of **Twenty-Five (25)** Multiple Choice Questions. Section B consists of **Three (3)** Structured Questions. The marks distribution for each question is given.
3. Answer Section A in the Multiple Choice Answer Sheet provided. Answer Section B in the answer booklet and graph paper provided.
4. Answer **ALL** questions.
5. The total mark is 100.

SECTION A: MULTIPLE CHOICE QUESTIONS (25 MARKS)

1. Normative economic analysis

   a) involves the study of what comprises a normal firm.
   b) involves judgments on how resources should be used in an economy.
   c) involves how resources are actually used in an economy.
   d) is usually thought to be a waste of time.

2. People who choose not to participate in fair gambles are called

   a) risk takers.
   b) risk neutral.
   c) risk averse.
   d) broke.

3. The substitution effect refers to

   a) the change in quantity demanded when the price of a substitute changes.
   b) the change in quantity demanded resulting from a change in total satisfaction, holding relative prices constant.
   c) the percentage change in quantity demanded resulting from a one percent change in all prices.
   d) the change in quantity demanded resulting from a change in relative prices, holding the level of satisfaction constant.

4. If consumers spend $150 a month on grapes, regardless of whether the price they pay goes up or down, that implies that their price elasticity of demand for grapes is

   a) 0.
   b) 1.
   c) infinite.
   d) 15.

5. The lump sum principle suggests that the tax that reduces utility the least is

   a) a tax on income.
   b) a tax on a good with many substitutes.
   c) an equal tax per-unit on all goods.
   d) a tax on a good with only a few substitutes.

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6. As a result of doubling all its inputs, Company A can produce more than double its output, its production function exhibits

    a) constant returns to scale.
    b) increasing returns to scale.
    c) decreasing returns to scale.
    d) increasing marginal productivity to at least one input.

7. Suppose a cost function is $TC = Xq^3 + yq^2 + zq + d$, then the total fixed cost is

    a) $Xq^2 + yq + zq + d/q$
    b) $Xq^2 + yq + z$
    c) $Xq^3 + yq^2 + zq$
    d) d

8. As long as marginal cost is below average cost, average cost will be

    a) rising.
    b) falling.
    c) constant.
    d) changing in a direction that cannot be determined without more information.

9. Imagine a farmer is a price taker ($MR = P = 6$) in wheat with cost functions given by

$$TC = .1q^2 + 2q + 30$$
$$MC = .2q + 2$$

The level of output is
    a) 10.
    b) 20.
    c) 40.
    d) 80.

10. Markets can fail to achieve efficiency when

    a) there are prices consumers do not think are fair.
    b) there are wages workers do not think are fair.
    c) trade puts people out of work.
    d) there are markets with imperfect competition.

11. Quotas that limit the quantity of imports of a foreign good provide an incentive for foreign suppliers to:

    I.   Provide higher quality goods.
    II.   Seek more open markets elsewhere.
    III.   Lower prices to be more competitive.
    IV.   Stop all trade with the country imposing the quotas.

Which of the above statements are true?

  a) I and II.
  b) I and III.
  c) II and IV.
  d) III only.

12. If an unregulated electric company is a monopolist and faces the following demand, total cost and marginal revenue functions:

$$Q = 50 - 10P; \ TC = 10; \ MR = 5 - \frac{1}{5}Q$$

The profit maximizing output is
  a) 5.
  b) 10.
  c) 25.
  d) 50.

13. Suppose a production possibilities frontier can be expressed as $9X^2 + Y^2 = 81$. What is the opportunity cost of going from 1 unit of X to 2 units of X (in terms of units of Y)?

  a) 45.
  b) $\sqrt{45}$.
  c) $\sqrt{72} - \sqrt{45}$.
  d) 1.

14. A price-discriminating monopolist having identical costs in two markets and should charge a higher price in the market

  a) which has a higher demand.
  b) which has a more elastic demand.
  c) which has a less elastic demand.
  d) which has a higher marginal revenue.

Continued...

15. In a Cournot equilibrium, each firm chooses an output level that

   a) maximizes joint profits.
   b) maximizes the price received.
   c) maximizes profits given what the other firm produces.
   d) maximizes revenue given what the other firm produces.

16. The kinked demand curve faced by an oligopolist is based on the assumption that

   a) rivals will follow a price increase but not a price cut.
   b) rivals will follow a price decrease but not a price increase.
   c) rivals will follow both a price decrease and a price increase.
   d) rivals will ignore both a price increase and a price decrease.

17. Answer Question 17 based on Figure 1.1 below. A teacher grades a final exam so that the top half of students get an A and the bottom half an F (so their grade depends only on relative and not absolute performance). Suppose that there are equal numbers of two groups, the Brainiacs and the Numbskulls. If they both study or they both party, the Brainiacs will get the As but if the Brainiacs party and the Numbskulls study, the Numbskulls will get the As. Imagine that they both dislike studying and both like good grades. Assume all students of a type choose the same action (so we can view it as a two-player game). Figure 1.1 is the payoff matrix.

Figure 1.1

		Numbskulls	
		Study	Party
Brainiacs	Study	5, 0	5, 2
	Party	2, 5	7, 2

Based on Figure 1.1, characterize the Nash equilibrium:

   a) There is only one equilibrium, in mixed strategies.
   b) The Brainiacs study and the Numbskulls party.
   c) There are two: in one, the Brainiacs study and the Numbskulls party, and in the other they do the reverse.
   d) Both types party.

18. If the Prisoners' Dilemma is repeated over and over again with the same two players having an indefinite time horizon,

   a) the unique equilibrium is to play the Nash equilibrium of Confess each period.
   b) players can cooperate on Silent if they are not too patient.
   c) players can cooperate on Silent if they are patient enough.
   d) players can only cooperate on Silent in the initial stages of the game.

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19. If A, B, C and D are any four market baskets and if the consumer has ranked them so that D is preferred to C, A is not preferred to B, and B is not preferred to C, then

   a) A is preferred to C.
   b) A is preferred to D.
   c) B is preferred to D.
   d) D is preferred to A.

20. The firm under monopolistic competition is likely to produce less and set a higher price than under perfect competition because

   a) the firm faces decreasing returns to scale.
   b) the firm faces increasing costs.
   c) the firm must incur selling expenses, including advertising.
   d) the firm faces a downward sloping demand curve.

21. As long as the principle of diminishing marginal utility is operating, any increased consumption of a good

   a) lowers total utility.
   b) produces negative total utility.
   c) lowers marginal utility and, therefore, total utility.
   d) lowers marginal utility, but may raise total utility.
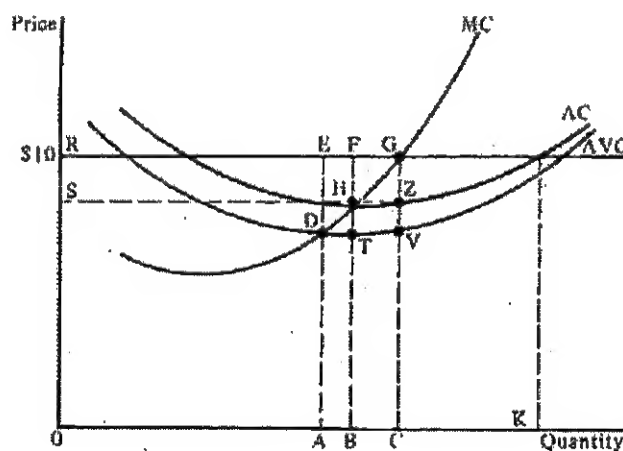
Answer Question 22 and 23 based on Figure 1.2 below:

Figure 1.2

22. Assume price is $10. The profit maximizing level of output for the firm is

   a) 0A where marginal cost just covers AVC.
   b) 0B where average profit per unit is the greatest.
   c) 0C where marginal cost equals the $10 price.
   d) 0K where average cost equals avenge revenue and the firm earns a normal rate of return.

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23. At the profit maximizing level of output, when price is $10,

    a) the firm is earning economic profit.
    b) profits per unit are the greatest.
    c) average variable cost equals ZC.
    d) all of the above.

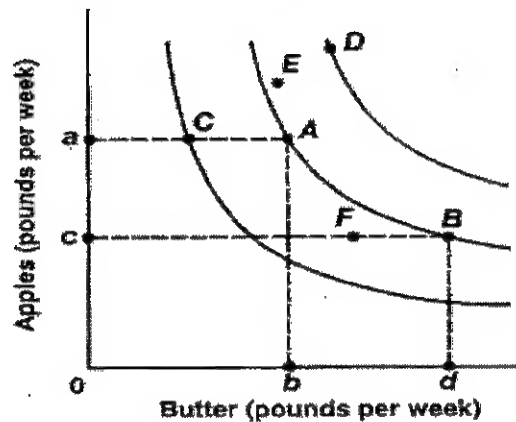Answer Question 24 and 25 based on Figure 1.3; a person's consumption-indifference curves below.

Figure 1.3

24. Figure 1.3 indicates that the consumer

    a) at A is indifferent between 0a of apples and 0b of butter
    b) at A is consuming either 0a of apples or 0b of butter.
    c) is indifferent between 0a of apples plus 0b of butter on the one hand and 0c of apples plus 0d of butter on the other.
    d) is correctly described by all of the above.

25. Figure 1.3 also shows the consumer's marginal rate of substitution in the *AB* range to be

    a) 0a of apples for 0d of butter.
    b) 0a of apples for 0b of butter.
    c) 0c of apples for 0d of butter.
    d) ac of apples for bd of butter.

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SECTION B: STRUCTURED QUESTIONS (75 MARKS)

QUESTION 1 (25 MARKS)

a) The market demand and market supply functions are given as follow:
$$D(P) = 25 - 0.25P$$
$$S(P) = 0.2P - 2$$

   i)   Calculate the equilibrium price and quantity for the market.   (6 marks)

   ii) Find the producer surplus at the market equilibrium.   (3 marks)

b) Given a linear demand curve, $Q = 350 - 7P$.

   i)   Designate the inverse demand curve of the above equation.   (3 marks)

   ii)   Calculate the price elasticity of demand at $P = 50$.   (3 marks)

c) Yoyo is on a game show and has selected the prize that lies at the Box 3. The game's emcee tells her that there is a 50 percent chance to have a worth $20,000 gold chain and a 50 percent chance to have nothing. Before the box is opened, the game's emcee gives her an option for selling to him what is in the box for $12,000 if she pays him $6,000 for this option.

   i)   If Yoyo cares about the expected dollar values of various outcomes only, examine whether she will buy this option or not.   (5 marks)

   ii) Why does Yoyo's degree of risk aversion might affect her willingness to buy this option? Evaluate.   (5 marks)

QUESTION 2 (25 MARKS)

a) Rahman's Lawn Mowing Service is a small business that acts as a price taker (MR = P) in Subang Jaya. The prevailing market price of lawn mowing is $20 per acre. Although Rahman can use the family mower for free, he has other costs given by

$$\text{Total cost} = 0.1q^2 + 10q + 50$$
$$\text{Marginal cost} = 0.2q + 10$$

Where, q = the number of acres Rahman chooses to mow in a week.

   i)   How many acres should Rahman choose to mow in order to maximize profit?
                                                               (3 marks)

   ii) Calculate Rahman's maximum weekly profit.   (3 marks)

   iii) Illustrate by graph on these results and label Rahman's supply curve.

                                                             (7 marks)
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b) JJ consumes two goods, burger and apple. He has a diminishing marginal rate of substitution of burger for apple. Let x denote the amount of burger consumed and y the amount of apple. Suppose the price of burger increase from P_{X1} to P_{X2}. On a clearly labeled graph, illustrate the income and substitution effects of the price change on the consumption of burger for each of the following cases:

    i)   Burger is a normal good.   (6 marks)

    ii)   The income elasticity of demand for burger is zero.   (6 marks)

QUESTION 3 (25 MARKS)

a) A monopolist sells a product with the following total cost function and marginal cost function.
$$TC = 400 + Q^2$$
$$MC = 2Q$$

The market demand function is $P = 500 - Q$.

    i)   Determine the profit-maximizing output and price for the monopolist. Is the business profitable?   (9 marks)

    ii)   Find the price elasticity of demand at the monopolist's profit-maximizing price.   (3 marks)

    iii)   Calculate the marginal cost at the monopolist's profit-maximizing output.   (3 marks)

b) In a perfectly competitive price system, suppose that there is new evidence that eating peaches is good for your health.

    i)   Using graph, illustrate what happens to the price and quantity of peaches exchanged based on demand and supply analysis.   (2 marks)

    ii)   Illustrate how this in turn affects the market for peach workers with graph.   (3 marks)

    iii)   Diagram on how this in turn affects the market for plums (a substitute for peaches).   (2 marks)

    iv)   Illustrate how this in turn affects the market for plums workers with graph.   (3 marks)

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